crack. In his early attempts he did not always succeed, but he soon acquired sufficient skill to force the smoke into both ears until he felt them distended, and his deafness was cured after using the cigarettes about a fortnight. A case is now under treatment in the same way, in which the patient has been deaf for above seven years, and the improvement is slow. He has been using the cigarettes for about six weeks, and even now it is too early to pronounce the case a successful one; but his hearing is improving, whilst all previous treatment had been entirely without benefit.

GENERAL LINING MEMBRANE OF THE BRONCHIAL TUBES.—The method of applying astringents and opiates to the surface of the bronchial membrane, by inhaling very finely powdered alum and opium, was lately brought before the Society by Mr. Bickerton, who exhibited his ingenious contrivance for effecting this object, and mentioned cases illustrative of its benefit. The method was the same in principle as that illustrated in the foregoing remarks; and although the title of this paper, "On the Internal Employment of Medicines in a State of *Vapour*," will not apply perfectly to their employment in the state merely of very fine powder, yet the beneficial results in his cases were so directly traceable to the topical application of the remedies, by means of the respiration, that I shall be pardoned for adducing his results in support of the method now under our notice.

In Mr. Bickerton's cases, his object was to apply a local astringent for the purpose of checking profuse secretion from the bronchial membrane, and the result corresponded with his expectations, and the cough and expectoration were essentially diminished. With a design in some respects similar, I have employed the mercurial cigarettes for the purpose of acting upon the whole bronchial membrane, in a case of long-standing spasmodic asthma. In this case, the occurrence of damp weather was almost always productive of an attack, and it seemed probable, that if the irritability of the bronchial surface could be diminished, the attacks might be reduced in frequency; the patient was, therefore, desired to smoke the cigarettes, which she learned to make for herself, and they proved so far successful, that when she felt an attack of difficult breathing coming on, she had recourse to them, and on several occasions the threatening symptoms went off, and no attack of spasmodic asthma was experienced. I do not, however, venture to lay too much stress upon this case, as she has had some severe attacks, notwithstanding the smoking, and because other means of a general tonic character, such as bathing and exercise were employed at the same time. Notwithstanding all reasonable deductions, on these grounds I am still persuaded, that the remedy has been of service in lessening the irritability of the bronchial membrane.—*Liverpool Med.-Chirurg. Journ.*, Jan. 1859.

[The method of making the mercurial cigarettes will be found described in the department of Materia Medica and Pharmacy, in the present No., p. 539.]

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13. *Inhalation of Carbonic Acid in Granular Pharyngitis.* By Dr. WILLEMIN.—The therapeutical application of the inhalation of carbonic acid has been made only in late years and principally in Germany. Bischoff and Ennemoser have made some experiments with carbonic acid, and have come to the conclusion, that when the gas is not breathed pure, nor for too long a time, it produces no unpleasant effects; but, on the contrary, that the respiration of the patients becomes more easy, and the expectoration more abundant. Germany possesses, in the present day, a great number of establishments where the inhalation of carbonic acid, more or less mixed with air or steam, is methodically practised. The gas is collected by means of an apparatus to which a caoutchouc tube is adapted, permitting the gas to be directed into the interior of the mouth, on the neck, or on any other part. At Pyrmont, a bell-glass has been placed over the spring from which the gas is disengaged, and three tubes carry away the carbonic acid. At Franzensbad a large basin has been constructed, and the patients descend into it by several steps, at the bottom of which the gas is disengaged. The superior stratum of air contains fifteen per cent. of carbonic acid; and in proportion as the patients are accustomed to this atmosphere, they approach nearer to the orifice from which the gas escapes.

The principal effect of the use of this gas, according to the German physicians, is to increase the activity of the circulation, and to depress the functions of the nervous system. The indications for this mode of treatment are thus drawn up by Lersch; it is especially serviceable in cases of dyspnœa dependent on the accumulation of mucous secretion in the pulmonary vesicles, or on emphysema of the lung. Helfft considers that this gas exercises a stimulant action upon the respiratory tract, and he recommends its use in chronic inflammation of the larynx and of the pharynx, in bronchial catarrh, and humid asthma. M. Goin recommends its use in nervous affections of the respiratory passages, as in asthma, and also in intermittent fever. The contra-indications of this inhalation are said to exist whenever any affection of the respiratory passages is accompanied by excitement of the circulating system. The German physicians unanimously forbid this treatment in phthisical cases. According to Gräfe, it is absolutely injurious when cavities are formed, these being often surrounded by a zone of inflammation. Under the influence of the carbonic acid inhalations the expectoration is diminished, and the fetor of the secretions is corrected, but the inflammation of the pulmonary parenchyma is augmented. Its use must also be avoided in hæmoptysis.

Dr. Willemin draws the following conclusions upon the inhalation of carbonic acid—namely, that when mixed with air, this gas produces a more or less active excitement of the respiratory passages, the action being analogous to that of the same gas upon the skin, the eye, &c., and this effect ought to contra-indicate its use whenever there exists a disposition to acute inflammation.

That the excitement is followed by a sedative effect, which appears to depend on a special action of this gas on the nervous system, the respiration becomes easier, the cough is allayed, the circulation is retarded, and the redness of chronic inflammation diminishes.

That continued for a longer time, or made with a larger proportion of gas, these inhalations cause vertigo, relaxation of the limbs, and anæsthesia.

That, in addition to this general action, the gas possesses an anæsthetic power over wounds and parts denuded of epidermis.

That these inhalations are especially efficacious in chronic inflammations with atony of the mucous membrane and exaggerated secretion, and in nervous affections of the respiratory passages; but that they ought to be avoided in phthisical cases.—*Brit. and For. Med.-Chirurg. Rev.*, Jan. 1859, from *L'Union Médicale*, July 15, 1858.

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14. *Instillations of a Tepid and rather Concentrated Solution of Chlorate of Soda into the Trachea of Children affected with Croup.*—M. BARTHEZ has been trying local applications to the false membranes produced in croup. For about two months, an epidemic of croup had prevailed near the Hôpital Ste. Eugénie, and had assumed some peculiar characters, being attended with the production of a false membrane in the bronchi, trachea, and larynx, seldom in the pharynx, and hardly ever in the nasal fossæ. The general symptoms of blood-poisoning were generally absent, and after tracheotomy, the children died with the symptoms of slow asphyxia; they all died, and in the greater part of them, the trachea and the bronchi were filled with false membranes.

M. Barthez had previously made some experiments on the comparative effects of chlorate of soda and chlorate of potash, when these salts are applied to the false membranes. Two portions of false membrane, of nearly equal dimensions, were placed in contact respectively with a concentrated solution of chlorate of potash, and a concentrated solution of chlorate of soda. The false membranes were gradually altered in character; they softened and lost their opacity; their tissue became less compact, more transparent, and afterwards diffluent, and their membranous form disappeared without losing all its cohesiveness. The only difference observable in the two solutions was that the changes began later in the chlorate of potash than in the chlorate of soda, and required a much longer time for their completion. The same membrane immersed in water only, preserved its natural appearance for many days.

Guided by these experiments, M. Barthez instilled through the canula a tepid solution of chlorate of soda in some cases of tracheotomy, in the hope that he might thus effect the softening of the false membranes, and consequently the